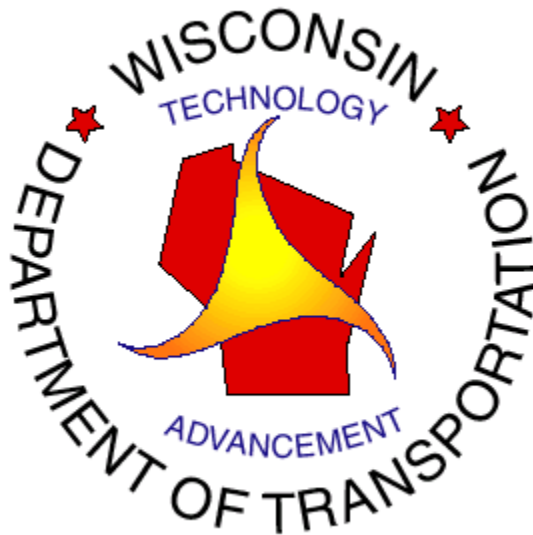


REPORT NUMBER: PE-00-03

**SCOTCH-LANE WET REMOVABLE
TAPE SERIES 750**

FINAL REPORT



October 17, 2003

Technical Report Documentation Page

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16. Abstract A report on a removable tape. Product was installed in construction work zones on the South Madison Beltline, USH 12, in August 2000 and USH 151 near I-39/90/94 interchange at Madison in October 2002. The product was installed and was evaluated at each site for a one- to two-month period. The product was evaluated for wet night retroreflectivity. Recommendation is for this product, and/or other wet-reflective alternatives such as temporary raised pavement marker reflectors, to be considered for use at work zones where visibility of the temporary marking in all weather conditions is especially critical. Example locations may include where freeway lanes are shifted across joint lines, and other tapers on high-speed, high-volume roadways.			
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PE-00-03

Scotch-Lane Wet Reflective Removable Tape Series 750

WisDOT Highway Research Study # PE-00-03

by

THOMAS NOTBOHM
DEBBY KOZOL

for

WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION INFRASTRUCTURE DEVELOPMENT
BUREAU OF HIGHWAY CONSTRUCTION
PAVEMENTS SECTION
TECHNOLOGY ADVANCEMENT UNIT
3502 KINSMAN BLVD., MADISON, WI 53704-2507

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TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
Technical Report Documentation Page	i
Title Page	ii
Table of Contents	iii
Introduction	1
Objective	1
Evaluation	1
Recommendations	3

LIST OF PHOTOGRAPHS

PHOTOGRAPHS

Figure 1:	1
Figure 2:	2
Figure 3:	2

INTRODUCTION

The Wisconsin Department of Transportation (WisDOT) Bureau of Highway Operations decided to evaluate 3M's Scotch-Lane Wet Reflective Removable Tape Series 750 in work zone applications. Results from the temporary installations would determine if the product is acceptable for statewide work zone use.

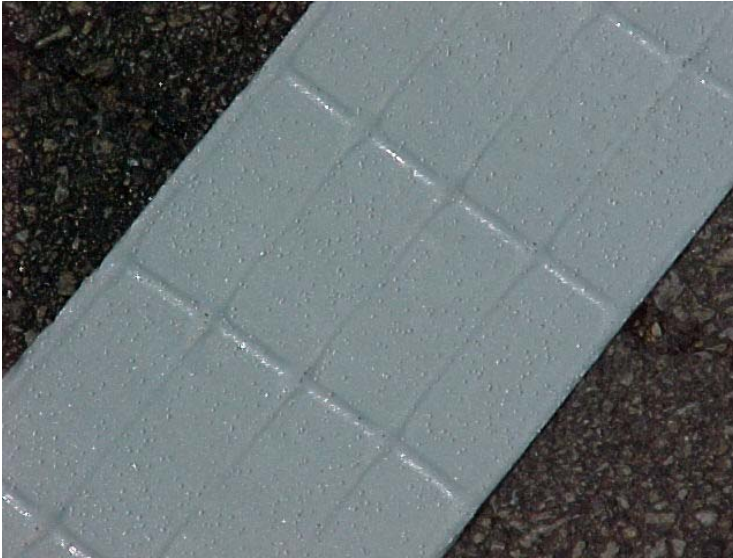


Figure 1: Close up of Scotch-Lane Tape Series 750

OBJECTIVE

The objective of this study is to determine if this product will provide increased retroreflectivity during rainy and other wet conditions. Traditional pavement marking paints and tapes lose their retroreflective properties when covered with water.

EVALUATION

Barricade Flasher Service on the South Madison Beltline, USH 12, and Project ID 1206-00-71 installed the product on August 23, 2000. The installation was during Stage 1 in mainline shift tapers and ramp tapers at each end of the auxiliary lane construction zone. The product was also installed by Traffic Signing & Marking on USH 151 (E. Washington Ave.) at the I-39/90/94 interchange at Madison, Project ID 1011-01-74. The USH 151 usage was in October 2002 in temporary lane shifts.



Figure 2: Installation

On the Beltline project the contractor noted the tape could not be installed with a machine roller since the tape was too thick from the ripples to be wound tight enough. Instead, the contractor had to unwind the tape and lay it as straight as possible. The contractor reported that the primer used, 3M Brand P-50, wasn't the same that they normally use for removable tape. Manufacturer did not indicate this to be the case.

The tape was viewed during the day during dry conditions. It was viewed several times at night during wet and dry conditions, up to two months after installation.

Both the yellow and white tapes looked excellent at night, in both wet and dry conditions. The tape was clearly brighter than other temporary tape/paint materials in wet conditions. Retroreflectivity readings were not conducted on the WisDOT projects, but were obtained from National Transportation Product Evaluation Program (NTPEP) tests.



Figure 3: Finished Installation

In NTPEP tests, white Series 750 tape had a minimum retroreflectivity of 953 mc/lux/m² initially and 405 mc/lux/m² after 120 days. Yellow Series 750 had a minimum of 469 mc/lux/m² initially and 187 mc/lux/m² after 120 days. These readings were under dry conditions.

RECOMMENDATIONS

This product performed better in wet weather than traditional markings. It is our recommendation that this product, and/or other wet-reflective alternatives such as temporary raised pavement marker reflectors, be considered for use where visibility of temporary markings in all weather conditions is especially critical. Examples may include where freeway lanes are shifted across joint lines, and other tapers on high-speed, high-volume roadways.